

## Application Note

# hp StorageWorks Online Volume Growth

**Product Version:** 1

First Edition (May 2004)

**Part Number:** 372413-001

This application note summarizes important information regarding OVG provided with the HP StorageWorks Service Release 1 not covered in other documents.

For the latest version of these Application Notes and other NAS server documentation, access the HP storage web site at: <http://www.hp.com/country/us/eng/prodserv/storage.html>.



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OVG Application Notes  
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## About this document

This section describes the content reflected in this document, including:

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## Intended audience

This document is intended for customers who have installed the HP StorageWorks Service Release 1.

## Other documentation

Additional documentation, including white papers and best practices documents, are available via the HP web site at: <http://www.hp.com>.

## Overview

The Online Volume Growth (OVG) feature provided with the HP NAS Service Release 1, provides the ability to expand a virtual disk on Windows Server 2003 without a reboot through use of Microsoft VDS (Virtual Disk Service).



**Caution:** Although OVG is supported on the EVA 5000 with a HP NAS server, make sure that you have read all of the accompanying documentation and understand the requirements and known issues associated with OVG.

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## Requirements

Currently, OVG is only supported on the HP NAS 4000s and 9000s with an EVA 5000 attached. In addition, Microsoft Virtual Disk Service (VDS) is also required. To utilize VDS, the HP StorageWorks VDS Hardware Provider must be installed. The HP VDS Hardware Provider enables volume and logical unit management of HP arrays from a central management console on the NAS. VDS provides a single interface for managing block storage virtualization.

To download the HP StorageWorks VDS hardware provider and installation guide, go to:

<http://www.hp.com/support/vdsvss>

## Hardware requirements

The following components are required for OVG on a NAS server:

- HP StorageWorks EVA 5000 disk array with a SAN Management Appliance (SMA) running CommandView EVA
- Ethernet connection between the EVA 5000 and the CommandView EVA workstation. The hardware providers use ports 12301 and 2301, and these ports must be free and available in order for the Hardware Providers to function.
- SAN fabric must be in place

## Known issues

The following known issues exist when using OVG on the NAS:

- Only single-head systems are supported; clusters are not supported at this time.
- Only a single EVA can be attached to the SAN Management Appliance (SMA). Multiple EVAs cause extended query times and inconsistent operation.
- Only basic disks can be extended; dynamic volume LUNs will be extended but will record an error when trying to extend the volume.

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**Note:** Dynamic volumes can be extended using Disk Manager.

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- Only simple and spanned dynamic volumes can be extended.

## Possible issues

The following may slow or prevent OVG from working properly on the NAS:

- Ports 12301 or 2301 unavailable
- A slow firewall between the EVA 5000 and the CommandView EVA workstation
- The HP Open View Storage Management Appliance with VCS 3.0 and CommandView EVA version 3.0a
- Hardware Provider production server running Windows 2003
- Excessive traffic on the Ethernet

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**Note:** Your HP account representative can assist you in determining the supported configurations for your system.

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## Installation

Installation requires two separate installation procedures:

- OVG
- Virtual Disk Service (VDS)

### Installing OVG

During the installation of Service Release 1, the option to install the OVG feature is given. The default is not to install OVG. Click the check box to install OVG.

### Installing the Virtual Disk Service (VDS)

Installing the VDS Hardware Provider on an EVA disk array enables all of the VDS management features of storage virtualization.

#### VDS Requirements

- The primary LUN to be managed by the hardware provider services must be visible to the NAS system where the providers are installed.
- The VDS hardware provider user account must have administrator privileges for CommandView EVA.

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**Note:** The installation instructions provided with the downloaded file state that Volume Shadow Copy Service (VSS) must be installed first and that BUSINESS COPY must also be available. This is an XP requirement and can be ignored for NAS installations.

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To install the VDS Hardware Provider:

1. Download the HP VDS Provider from:  
<http://www.hp.com/support/vdsvss>
2. Double-click `hp_StorageWorks_vss_vds_hardware_providers.exe` to extract the program files.
3. Double-click `hp_StorageWorks_VDS_Hardware_Provider_for_EVA.msi` to launch the installer.
4. Accept the licensing agreement and install the product in the default location.
5. Follow instructions on screen. When requested,
  - a. Enter the IP address of the Storage Management Appliance (SMA).
  - b. Click Logon, then enter User name and password (Default: administrator: administrator).
  - c. Select Enterprise Virtual Array (EVA) Storage System.
  - d. Add the disk groups which OVG will use to the selected disk groups.

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**Note:** If logon fails, reboot both SMA and NAS servers until a logon completes

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## VDS configuration settings

At the Configuration Utility, enter the appliance IP address for management of the EVA disk array and click the **Logon** button. This will populate the other fields on this screen with disk group information. Choose one disk group to add to the selected disk groups field. This is the disk group that will be used for VDS activities.

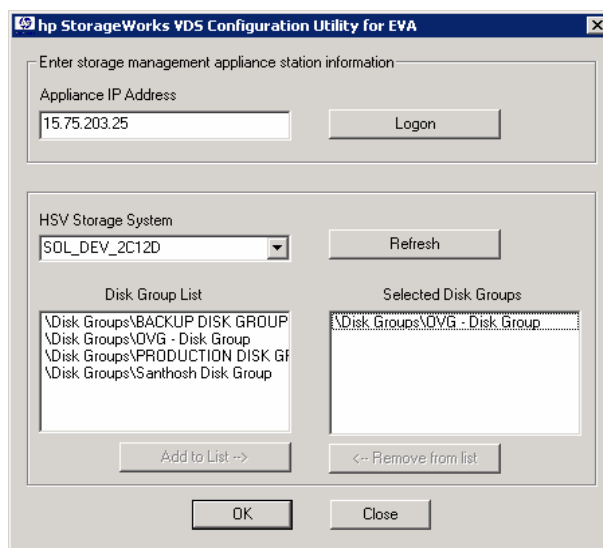


Figure 1: VDS configuration utility

## Using Online Volume Growth

OVG offers three separate features for LUN management:

- LUN Creation
- LUN Expansion
- LUN Deletion.

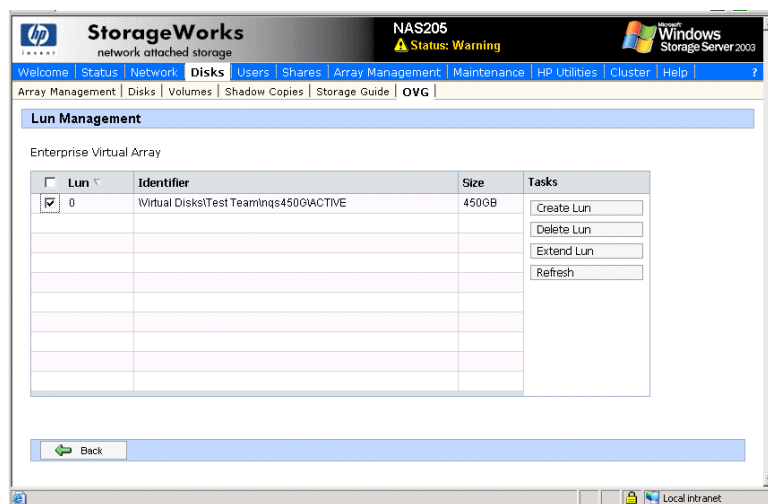


Figure 2: OVG screen of WebUI

## Special considerations when using OVG

- Large EVA configurations may take large amounts of time to load on the HP StorageWorks NAS screen. During this time, there will be no system activity.
- When creating a LUN using OVG, there is a minimum of 1 GB required for the LUN size.
- Ensure that the disk group contains enough free space before using OVG to extend a LUN

## LUN creation

To create a LUN:

1. Click the **Create LUN** from the Tasks Column.
2. Select the RAID protection level.
3. Enter the desired LUN size (GB).
4. Click **OK**.

## Expanding a LUN

To expand a LUN:

1. Select the **LUN** to be expanded.
2. Click the **Extend LUN** button.
3. Enter the additional size in GB.
4. Click **OK**.

## Deleting a LUN

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**Note:** Deleting a LUN can take a few minutes. While the LUN is being deleted no system activity will be provided on screen.

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To Delete a LUN:

1. Select the LUN to be deleted.
2. Click the **Delete LUN** button.



**Caution:** Deleting a LUN will delete all data on that LUN permanently.

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3. Confirm the deletion of the LUN by clicking the **OK** button.